

Work Order ID 55591

January 22, 2010 11:11:37 AM



Page 1

Item ID: D205-634-041

Accept



Setup Start



Revision ID:

Stop



Item Name: Replacement Skidtube

Start Date: 1/22/10 Start Qty: 1.00



Cust Item ID:

Required Date: 1/29/10 Req'd Qty: 1.00



Customer:

Reference:

Approvals:

Process Plan:

*PL*Date: *10-1-22*

Tooling:

Date:

QC:

Date:

SPC (Y/N):

Date:

Run Start



Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	----------------	--------------	--------------	---------------	---------------	------------------	----------------

Draw Nbr

Revision Nbr

D2580

Rev D

100

0.00



DC

DOCUMENT CONTROL

Memo

0.00

Document Control

Photocopy D205-634 bluefile & type labels per PPP D205-634-041 CHG002

N/A

110

0.00



CNC Bend 1

BENDING MACHINE - SKIDTUBES

Memo

0.00

CNC Delta 100 Bender

1-Bend as per program D2580.C on CNC Bender and Folio FT009

2-Cut tubes as per Dwg. D2580

) 10/1/26

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
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QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
120		0.00							
Skidtubes	Memo	0.00							
Skidtubes	1- Deburr ends								
	2- C'sink holes as per dwg without cutting fluid								
	3- Prepare tube for welding, remove alodine as required.								
	4- Scribe batch number insied aft end of tube.								
130	QC5- Inspect part completeness to step on W/O	0.00							
QC	Memo	0.00							
Quality Control									

①

BE 10/01/26

JP

10-1-26

W/O:		WORK ORDER CHANGES					
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Approvals: Process Plan: Date: Tooling: Date:

Stop



QC: Date: SPC (Y/N): Date:

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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140

0.00



Skidtubes

Memo

0.00

Skidtubes

1-Weld step D2576 as per Dwg. D2580 and QSI 004
A/R□□□ Aluminum Rod*M112860 / M113207 BE 10/01/26*

2-Prep per QSI 005 and weld crossbolt spacers D2579 as per Dwg. D2580, QSI 004.

For D2579 spacers, weld one side, pass 3/8" drill, weld other side, pass 3/8" drill
A/R□□□ Aluminum Rod*M112860 / M113207 BE 10/01/26*

3-Grind welds as per Dwg D2580 Grind flush ridge made from bending

4-Drill holes for wearplates using DT 8217 & DT8937 Open holes to 19/64",
adjust stopper not to hit web. Deburr5-Counterbore crossbolt spacers to 7/16" ID x 1.0" deep as per Dwg D2580.
Deburr holes

6-Drill pilot holes for aft cap using DT 8215 Open holes to 0.208". Deburr

7-Drill pilot holes for Tow ring using DT8091, open to .640" and Deburr

3 BE 10/01/27

W/O:		WORK ORDER CHANGES					
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Run Start



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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150

QC10- Inspect visual per QSI004- ground welds

0.00

⇒ S106167



QC

Memo

0.00



Quality Control

160

QC5- Inspect part completeness to step on W/O

0.00

⇒ S106167



QC

Memo

0.00



f

Quality Control

170

Pressure Wash per QSI005 4.3

0.00



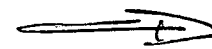
HandFinish

Memo

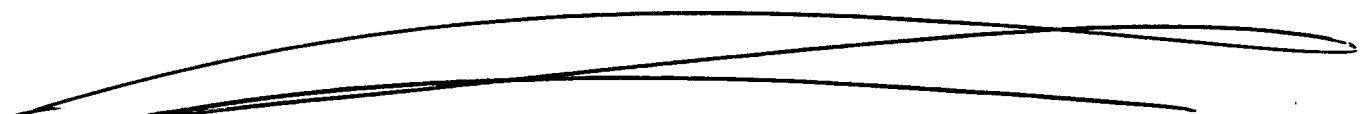
0.00

BK 10-02 9.0.

Hand Finishing

RE-ALODINE PAR
09-043

BK 10-02-10 ①



W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

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Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run HoursDraw
NumberDraw
Rev.Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

180



Powdercoat

White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum

0.00

M113170

0.00

74/ 10/02/10

(XL) 8

Powder Coating

Memo

START TIME: 9:00AM
OVEN TEMPERATURE: 320°F
FINISH TIME: 9:30AM

190



QC

Quality Control

QC3- Inspect Part Finish

0.00

Memo

0.00

BR 10-02-10

D 8

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

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Customer:

Reference:

Run Start



Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Stop



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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200

0.00



HandFinish

Memo

0.00

Hand Finishing

1-Install inserts & wearplates & Gaskets as per Dwg. D2580. Use a drop of Sikaflex on insert holes before installing wearplates
A/R ☐☐☐ Sikaflex-291 *M112345*
Sikaflex expire date: *10/08*

2-Coat D2594-3 O' rings with Petroleum Jelly and install on D2594-1 plugs as per Dwg D2580

3-Inspect for foreign object per QSI 024

4-Install 2855 Aft Cap as per Dwg D2580 and seal Fwd Step & Aft Cap with Sikaflex. Clean excess adhesive
A/R ☐☐☐ Sikaflex-291 *M112345*
Sikaflex expire date: *10/08*

5-Wing Walk as per Dwg D2580 and QSI 005 4.4
Batch: *M113N62*

PR10-02-9 ①
BL 10-02-11 ①

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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Required Date: 1/29/10 Req'd Qty: 1.00

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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210

QC5- Inspect part completeness to step on W/O

0.00

S 10/2/14



QC

Memo

0.00

①

Quality Control

Inspect Aft Cap, Fwd Step and Wing Walk of work to Current Step Inspect for Foreign objects per QSI 024

220

Packaging

0.00



Packaging

Memo

0.00

10/2/12

Packaging

Identify and pack for shipping as per PPPD205-634-041

Location: _____

PPP Rev: _____

AP 5458

230

QC21- Final Inspection - Work Order Release

0.00



QC

Memo

0.00

10/02/18

Quality Control

MF 10-2-18

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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Picklist Print

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Work Order ID: 55591



Parent Item: D205-634-041



Parent Item Name: Replacement Skidtube

Start Date: 1/22/10

Required Date: 1/29/10

Comments: IPP Rev:N 02.08.28 FP was QC5 in Step 27; Added QC5 to Step 30 KJ
 IPP Rev. O 06.02.28 Added paperwork EC
 IPP Rev:P 07-07-09 SS Wearplates & Gaskets JLM

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/	Replacement	Mfg/	Bin	Primary	Last	Route	Unit of	Qty on	Remaining	Qty	Date	Status
D2580-1		Manufactured	No			110	Each	7.0000	1.0000			
205 Skidtube bent detail												

Warehouse Loc Qty Loc Code
Location

Main Warehouse

LG

7

54120

1

54541

2

54697

2

54721

2

D2576-3

Manufactured No

140

Each

142.0000

1.0000



Step (maching detail)

Warehouse Loc Qty Loc Code
Location

Main Warehouse

ST

142

46661

95

52215

47

1 1/10/11/26

1 BE10/01/26

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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Start Date: 1/22/10

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 IPP Rev:P 07-07-09 SS Wearplates & Gaskets JLM

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/	Replacement	Mfg/	Bin	Primary	Last	Route	Unit of	Qty on	Remaining	Qty	Date	Status
D2579		Manufactured	No			140	Each	207.0000	20.0000			
Crossbolt Spacer												

Warehouse Loc Qty Loc Code
Location

Main Warehouse

LG	85
51525	4
53780	3
54543	18
54642	60

Main Warehouse

ST	122
43988	4
46434	4
46956	2
47797	9
48272	2
51314	71
51315	30

20 BE 12/10/20

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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 IPP Rev. O 06.02.28 Added paperwork EC
 IPP Rev:P 07-07-09 SS Wearplates & Gaskets JLM

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/	Replacement	Mfg/	Bin	Primary	Last	Route	Unit of	Qty on	Remaining	Qty	Date	Status
D2855		Manufactured	No			200	Each	153.0000	1.0000			



Cap

Warehouse Loc Qty Loc Code

Location

Main Warehouse

ST026	153	
50513	1	
50770	1	
51539 ✓	40	
53791	111	

1 BL 10-02-9.

AN3-5A

Purchased

No

200

Each

1,849.000 2.0000



Bolt

Warehouse Loc Qty Loc Code

Location

Main Warehouse

ST	1849	
100188	188	
105057 ✓	1661	

2 BL 10-02-9.

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

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Start Qty: 1.00

Required Qty: 1.00

Component Item ID/	Replacement	Mfg/	Bin	Primary	Last	Route	Unit of	Qty on	Remaining	Qty	Date	Status
AN960JD10L		Purchased	No			200	Each	4,109.000	2.0000			
Washer												

Warehouse Loc Qty Loc Code
Location

Main Warehouse

ST	4109	
101291	16	
105793	49	
110985 ✓	4044	

ALS7-1032-130

Purchased

No

200

Each

1,088.000 50.0000



Insert

Warehouse Loc Qty Loc Code
Location

Main Warehouse

ST	1088	
108606	52	
111529	130	
111779	41	
112772	11	
113238	854	

ALS4-1032-130

110511

50. BR 10-02-9.

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DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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 IPP Rev:P 07-07-09 SS Wearplates & Gaskets JLM

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/	Replacement	Mfg/	Bin	Primary	Last	Route	Unit of	Qty on	Remaining	Qty	Date	Status
AN3C4A		Purchased	No			200	Each	1,205.000	50.0000			
BOLT												

Warehouse Loc Qty Loc Code
Location

Main Warehouse

ST	1205	
112314	13	
112720	12	
112724	3	
112829	1	
112991	2	
113121	64	
113226	386	
113422 ✓	224	
113644 ✓	500	

40. BR 10-02-9
 10. BR 10-02-9.

AN960C10L Purchased No

200 Each 388.0000 50.0000



washer

Warehouse Loc Qty Loc Code
Location

OFFSHORE

FG	113288	100
103585		100

50. BR 10-02-9.

Main Warehouse

ST	288	
112116	128	
112612	160	

NAS1149C0332R

W/O:		WORK ORDER CHANGES					
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Start Qty: 1.00

Required Qty: 1.00

Component Item ID/	Replacement	Mfg/	Bin	Primary	Last	Route	Unit of	Qty on	Remaining	Qty	Date	Status
D3566-13		Manufactured	No			200	Each	85.0000	1.0000			
Gasket												

Warehouse Loc Qty Loc Code
Location

Main Warehouse

FP 83

51606 1

53461 ✓ 82

Main Warehouse

ST 2

45717 1

50265 1

D3566-5 Manufactured No

200 Each 37.0000 1.0000



Gasket

Warehouse Loc Qty Loc Code
Location

Main Warehouse

FP19 33

55026 ✓ 21

55335 12

Main Warehouse

ST 4

36113 1

46186 1

47318 1

51260 1

1 BR 10-02-9.

1 BR 10-02-9.

W/O:		WORK ORDER CHANGES					
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Start Qty: 1.00

Required Qty: 1.00

Component Item ID/	Replacement	Mfg/	Bin	Primary	Last	Route	Unit of	Qty on	Remaining	Qty	Date	Status
D3566-1		Manufactured	No			200	Each	45.0000	2.0000			
Gasket												

Warehouse Loc Qty Loc Code

Location

Main Warehouse

FP	40	
52512	3	
54480	1	
55011 ✓	9	
55320	27	

2 BR 10-02-9

Main Warehouse

ST	5	
46349	1	
51218	1	
51259	3	

D3564-11 Manufactured No

200 Each 7.0000 1.0000



Wearshoe

Warehouse Loc Qty Loc Code

Location

Main Warehouse

FP19	5	
52125 ✓	5	

1 BR 10-02-9.

Main Warehouse

ST	2	
45823	1	
50112	1	

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

January 22, 2010 11:11:36 AM

Work Order ID: 55591



Parent Item: D205-634-041



Parent Item Name: Replacement Skidtube

Start Date: 1/22/10

Required Date: 1/29/10

Comments: IPP Rev:N 02.08.28 FP was QC5 in Step 27; Added QC5 to Step 30 KJ
 IPP Rev. O 06.02.28 Added paperwork EC
 IPP Rev:P 07-07-09 SS Wearplates & Gaskets JLM

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/	Replacement	Mfg/	Bin	Primary	Last	Route	Unit of	Qty on	Remaining	Qty	Date	Status
D3564-13		Manufactured	No			200	Each	25.0000	1.0000			



Wearshoe

Warehouse Loc Qty Loc Code

Location

Main Warehouse

FP17

13

51611 ✓

13

Main Warehouse

ST

12

45409

2

46495

10

D3564-9

Manufactured No

200

Each

16.0000

1.0000



Wearshoe

Warehouse Loc Qty Loc Code

Location

Main Warehouse

FP19

14

53806

2

55025 ✓

12

Main Warehouse

ST

2

44659

1

45825

1

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
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NOTE: Date & initial all entries

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January 22, 2010 11:11:36 AM

Work Order ID: 55591



Parent Item: D205-634-041



Parent Item Name: Replacement Skidtube

Start Date: 1/22/10

Required Date: 1/29/10

Comments: IPP Rev:N 02.08.28 FP was QC5 in Step 27; Added QC5 to Step 30 KJ
 IPP Rev. O 06.02.28 Added paperwork EC
 IPP Rev:P 07-07-09 SS Wearplates & Gaskets JLM

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/	Replacement	Mfg/	Bin	Primary	Last	Route	Unit of	Qty on	Remaining	Qty	Date	Status
D3564-5		Manufactured	No			200	Each	46.0000	1.0000			



Wearshoe

Warehouse	Loc Qty	Loc Code
<u>Location</u>		
OFFSHORE		
FG	2	
34806	2	
Main Warehouse		
FP19	42	
51925	1	
54772	14	
55024	12	
55333 ✓	15	
Main Warehouse		
ST	2	
45824	1	
47433	1	

Bl 10-02-9.

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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NOTE: Date & initial all entries

Picklist Print

January 22, 2010 11:11:37 AM

Work Order ID: 55591



Parent Item: D205-634-041



Parent Item Name: Replacement Skidtube

Start Date: 1/22/10

Required Date: 1/29/10

Comments: IPP Rev:N 02.08.28 FP was QC5 in Step 27; Added QC5 to Step 30 KJ
 IPP Rev: O 06.02.28 Added paperwork EC
 IPP Rev: P 07-07-09 SS Wearplates & Gaskets JLM

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/	Replacement	Mfg/	Bin	Primary	Last	Route	Unit of	Qty on	Remaining	Qty	Date	Status
D2594-3		Manufactured	No			200	Each	256.0000	16.0000			



O-Ring, 205 Skidtube

Warehouse	Loc Qty	Loc Code
Location		

Main Warehouse

FP	27	
----	----	--

51613	27	
-------	----	--

Main Warehouse

ST	229	
----	-----	--

52562 ✓	229	
---------	-----	--

D2594-1

Manufactured No

200 Each

737.0000 16.0000



Plug, 205 Skidtube

Warehouse	Loc Qty	Loc Code
Location		

Main Warehouse

FP	609	
----	-----	--

54008	1	
-------	---	--

54643	15	
-------	----	--

55002 ✓	593	
---------	-----	--

Main Warehouse

ST	128	
----	-----	--

42221	16	
-------	----	--

42807	92	
-------	----	--

43884	3	
-------	---	--

46435	2	
-------	---	--

51527	9	
-------	---	--

51757	6	
-------	---	--

16 ~~BP~~ BP 10-02-9

16 BP 10-02-9.

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

DART

DESIGN <i>[Signature]</i>	DRAWN BY <i>RH</i>	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED <i>[Signature]</i>	APPROVED <i>[Signature]</i>	DRAWING NO. D2580	REV. D SHEET 1 OF 3
DATE 07.02.27		TITLE 205 SKIDTUBE ASSEMBLY	SCALE NTS
A	96.09.16	NEW ISSUE	
B	96.12.02	AS MANUFACTURED	
C	98.08.26	REDRAWN, INCLUDED DEO 9094/9097	
D	07.02.27	CHANGE TO SS WEARPLATES AND GASKETS, INCLUDE DEO 9124/9183	

RELEASED
07-06-28 *[Signature]*

QTY -041	QTY -045	Part Number	Description
X		D2580-041	SKIDTUBE ASSEMBLY
	X	D2580-045	SKIDTUBE ASSEMBLY
1	1	D2500-1-190	EXTRUSION
1	1	D2576-3	STEP
20	24	D2579	CROSS BOLT SPACER
16	16	D2594-1	PLUG
16	16	D2594-3	O-RING
1	1	D2596	205 WEB
1	1	D2855	AFT CAP
1	1	D3564-5	WEARSHOE
1	1	D3564-9	WEARSHOE
1	1	D3564-11	WEARSHOE
1	1	D3564-13	WEARSHOE
2	2	D3566-1	GASKET
1	1	D3566-5	GASKET
1	1	D3566-13	GASKET
50	50	ALS7-1032-130 or AKS7-1032-130 or AKS4-1032-130 or AELS-1032-130	INSERT
50	50	AN3C4A	BOLT
2	2	AN3-5A	BOLT
50	50	AN960C10L	WASHER
2	2	AN960JD10L	WASHER

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 55591

RH 10-1-22

GENERAL NOTES:

- 1) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 2) ALL DIMENSIONS ARE IN INCHES
- 3) INSERT D2596 WEB TO LOCATION SHOWN OFF AFT END OF SKIDTUBE AND BOND WEB INTO OUTER TUBE WITH NON-STRUCTURAL SIKAFLEX-241 ADHESIVE PER DART QSI 015 BEFORE BENDING. ENSURE HOLES LINE-UP.
- 4) BEND AS A SMOOTH RADIUS STARTING WITH A MAXIMUM CENTERLINE RADIUS OF 60 AND ENDING WITH A MINIMUM RADIUS OF 30. A MAXIMUM REDUCTION OF 0.200 IN DIAMETER IS ALLOWABLE IN THE BENT PORTION OF THE TUBE.
- 5) USE DART DRILL TEMPLATE TD2577-205 TO LOCATE AND DRILL Ø0.297 HOLES FOR WEARSHOE INSERTS. INSTALL ALS7-1032-130 PER SECTION D-D (50 PLACES) AFTER FINISH. INSTALL AN3C4A BOLTS AND AN960C10L WASHERS WITH SIKAFLEX-241/-291.
- 6) WELDING TO BE DONE PER DART QSI 004.
- 7) FINISH:
SEE NOTES ON
PAGE 2 FOR D2580-041 AND
PAGE 3 FOR D2580-045
- 8) INSERT D2594-1 PLUG C/W D2594-3 O-RING IN HOLES MARKED 'P' (BOTH SIDES OF TUBE) AFTER FINISH (16 PLACES).

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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

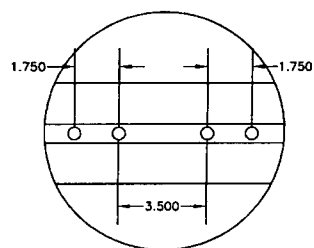
Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

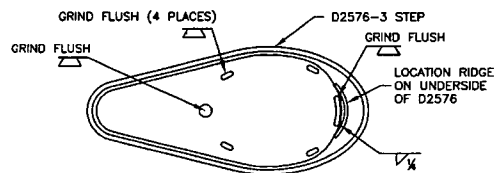
NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

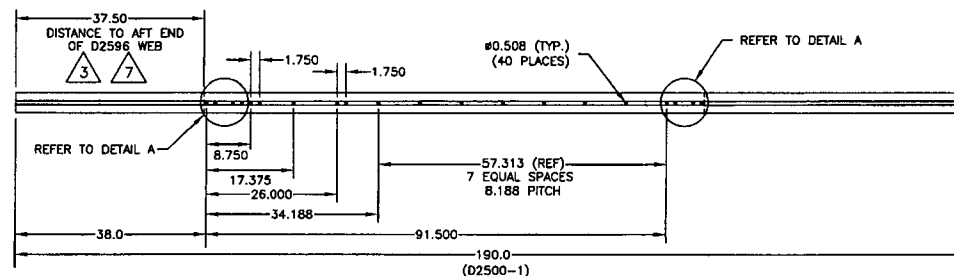
DETAIL A
SCALE 5:24



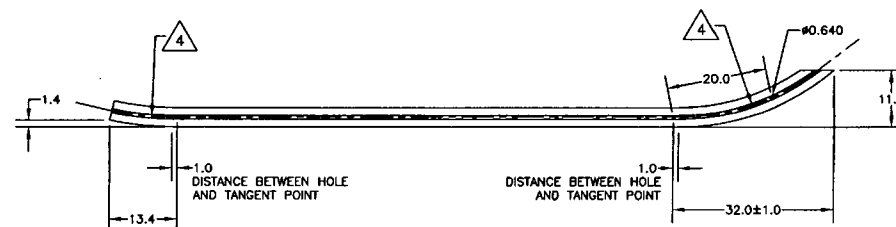
DETAIL B
SCALE 5:24



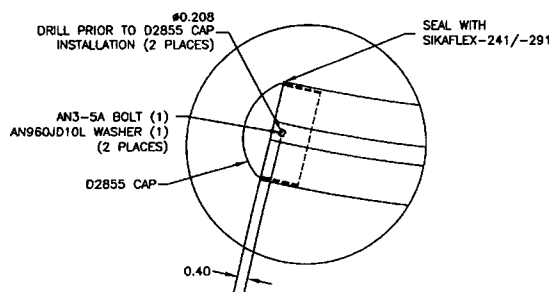
D2580-1 DRILLING DETAIL



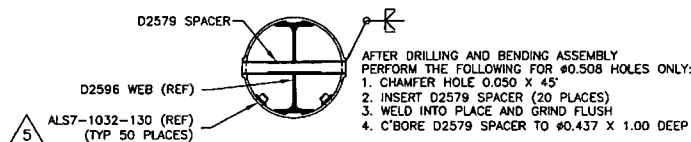
D2580-1 BENDING AND CUTTING DETAIL



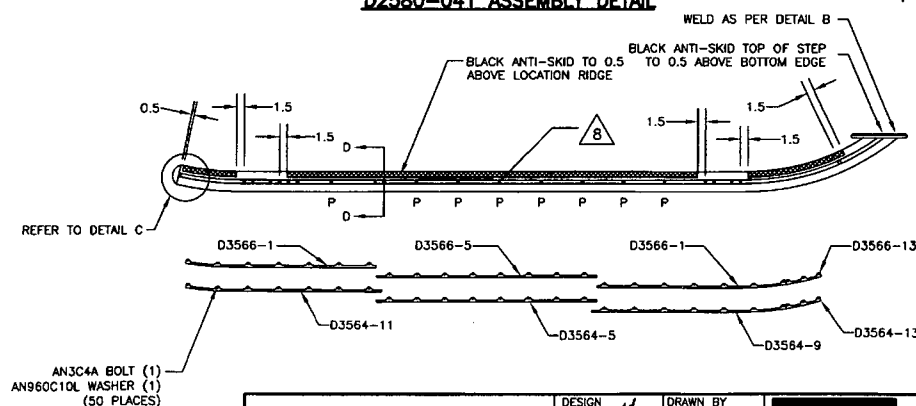
DETAIL C
SCALE 5:24



SECTION D-D
SCALE 5:24



D2580-041 ASSEMBLY DETAIL



D2580-041 NOTES

- i) FINISH: ACID ETCH, ALODINE PER DART QSI 005 4.1 PRIOR TO INSERTING D2596 WEB
POWDER COAT ASSEMBLY GLOSS WHITE (REF. 4.3.5.1) PER DART QSI 005 4.3
BLACK ANTI-SKID PAINT AS INDICATED PER DART QSI 005 4.4

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DESIGN	DRAWN BY	DART	DART AEROSPACE LTD. MARKHAM, ONTARIO, CANADA
CHECKED	APPROVED	DRAWING NO. D2580	REV. D SHEET 2 OF 3
DATE 07.02.27	TITLE 205 SKIDTUBE ASSEMBLY	SCALE 1:24	

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

RELEASED
07-06-28

Diagram illustrating the grinding locations for the D2576-3 step. The diagram shows a cross-section of the step with the following labels:

- GRIND FLUSH (4 PLACES)
- GRIND FLUSH
- D2576-3 STEP
- GRIND FLUSH
- LOCATION RIDGE ON UNDERSIDE OF D2576

Diagram illustrating the rear view of the engine cover assembly. The diagram shows the following components and instructions:

- DRILL PRIOR TO D2855 CAP INSTALLATION (2 PLACES)**: Points to the locations where the cap will be secured.
- SEAL WITH SIKAFLEX-241/-291**: Points to the sealing area around the cap.
- AN3-5A BOLT (1)** and **AN960JD10L WASHER (1) (2 PLACES)**: Points to the bolt and washer used for securing the cap.
- D2855 CAP**: Points to the cap itself.
- SEE NOTE ii)**: Points to a specific detail or note related to the assembly.
- 0.40**: Dimension indicating the distance from the center of the bolt to the edge of the cover.

5

D2579 SPACER

D2596 WEB (REF)

AL57-1032-130 (REF)
(TYP 50 PLACES)

AFTER DRILLING AND BENDING ASSEMBLY
PERFORM THE FOLLOWING FOR #0.508 HOLES ONLY:

1. CHAMFER HOLE 0.050 X 45°
2. INSERT D2579 SPACER (20 PLACES)
3. WELD INTO PLACE AND GRIND FLUSH
4. C'BORE D2579 SPACER TO #0.437 X 1.00 DEEP

i) FINISH: ACID ETCH, ALODINE PER DART QSI 005 4.1 PRIOR TO INSERTING D2596 WEB POWDER COAT ENTIRE ASSEMBLY GREEN (REF. 4.3.5.8) PER DART QSI 005 4.3 BLACK ANTI-SKID PAINT AS INDICATED PER DART QSI 005 4.4

ii) IT IS ACCEPTABLE TO GRIND A RELIEF IN THE D2855 AFT CAP TO PREVENT INTERFERENCE WITH THE SPACER AT THIS LOCATION

37.50
DISTANCE TO AFT END
OF D2598 WEB

3
7

1.750 1.750

0.508 (TYP.)
(40 PLACES)

REFER TO DETAIL E

REFER TO DETAIL A

8.750 17.375 26.000 34.188

57.313 (REF)
7 EQUAL SPACES
8.188 PITCH

38.0 91.500 190.0
(D2500-1)

Technical drawing of a curved pipe section. The drawing shows a horizontal pipe with a curved end. Key dimensions and features include:

- Overall length: 51.340
- Distance from left end to first hole: 5.985
- Distance between first and second hole: 5.338 (REF)
- Distance from second hole to third hole: 3.630 (REF)
- Distance from third hole to end of curve: 39.580
- Distance from end of curve to center of hole: 5.915
- Hole diameter: $\phi 0.508$ (8 PLACES)
- Radius of curve: 20.0
- End hole diameter: $\phi 0.640$
- Distance between hole and tangent point: 1.0
- Distance from left end to tangent point: 13.4
- Distance from right end to tangent point: 32.0 \pm 1.0
- Callout 4: Points to the left end of the pipe and the curve.

HULL ASSEMBLY

WELD AS PER DETAIL F

BLACK ANTI-SKID TO 0.5 ABOVE LOCATION RIDGE

BLACK ANTI-SKID TOP OF STEP TO 0.5 ABOVE BOTTOM EDGE

NO C'BORE NO PLUG

REFER TO DETAIL G

0.5

1.5

1.5

H

P P P P P P P

8

1.5

1.5

1.5

NO C'BORE NO PLUG

D3566-1

D3566-5

D3566-1

D3566-13

D3564-11

D3564-5

D3564-9

D3564-13


AN3C4A BOLT (1)

AN960C10L WASHER (1)

(50 PLACES)

DESIGN	DRAWN BY
--------	----------

w/o 5559,

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	CHECKED	APPROVED		DRAWING NO.	REV. D
	DATE	TITLE			SHEET 3 OF 3
	07.02.27	205 SKIDTUBE ASSEMBLY			SCALE 1:24

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

NO. 221

AWS D17.1.2001
QUALIFICATION TEST RECORD

Name: Berclay Elliott
Job number: 542020
Part number: D205 634 041
Description: 205 skid tube
Welding Process: Tig[☒] Mig[]
Base material: Aluminium
Current: AC[☒] DC[]

TEST REQUIREMENTS AND RESULTS

Visual: pass[☒] fail[]
Penetration: pass[☒] fail[]

UNACCEPTABLE

Cracks: pass[☒] fail[]
Undercut: pass[☒] fail[]
Pin holes: pass[☒] fail[]
Overlap (cold lap): pass[☒] fail[]
Porosity (surface): pass[☒] fail[]
Coloration: pass[☒] fail[]

Qualifier P. D. J. Date of Test Coupon 09.12.17

Welder Berclay Elliott Date of Test Coupon 09.12.17

The above named individual is qualified in accordance with AWS D17.1.2001 to weld